

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for correcting for an echo signal component in a telecommunications device, comprising the steps of:

sampling a transmitted signal across a sampling resistor to obtain a sampled transmit signal;

subtracting the sampled transmitted signal from a line signal to obtain a reconstructed received signal;

sampling the transmitted signal across a first RC network echo compensation circuit to obtain a first echo compensation signal; and

subtracting the first echo compensation signal from the reconstructed received signal to produce a first compensated received signal by providing combining the first echo compensation signal and the reconstructed received signal to at a first circuit node;

thereby compensating the reconstructed received signal.

2. (Previously Presented) The method of claim 1, further comprising the steps of:

sampling the transmitted signal across a second RC network echo compensation circuit to obtain a second echo compensation signal; and

subtracting the second echo compensation signal from the first compensated received signal to produce a second compensated signal by providing the second echo compensation signal and the first compensated received signal to the first circuit node;

thereby compensating the reconstructed received signal.

3. (Previously Presented) The method of claim 1, further comprising the steps of:

sampling an inverted transmitted signal across a second sampling resistor to obtain an inverted sampled transmitted signal;

subtracting the inverted sampled transmitted signal from a second line signal to obtain a second reconstructed received signal;

sampling the transmitted signal across a second RC network echo compensation circuit to obtain a second echo compensation signal; and

subtracting the second echo compensation signal from the second reconstructed received signal to produce a second compensated signal by providing the second echo compensation signal and the second compensated received signal to the first circuit node;

thereby compensating the second reconstructed received signal.

4. (Previously Presented) The method of claim 3, further comprising the steps of:

sampling the inverted transmitted signal across a third RC network echo compensation circuit to obtain a third echo compensation signal;

subtracting the third echo compensation signal from the second reconstructed received signal to produce a fourth compensated signal by providing the third echo compensation signal and the second reconstructed received signal to a second circuit node;

thereby compensating the second reconstructed received signal;

sampling the inverted transmitted signal across a fourth RC network echo compensation circuit to obtain a fourth echo compensation signal; and

subtracting the fourth echo compensation signal from the reconstructed received signal to produce a fifth compensated signal by providing the fourth echo compensation signal and the reconstructed received signal to a second circuit node;

thereby compensating the reconstructed received signal.

5. (Currently Amended) An apparatus for compensating for echo signal in a telecommunications device comprising:

a transmitter having two outputs;

a receiver having an input;
a line transformer coupled to the transmitter output and the receiver input; and
an echo compensation circuit comprising:
a first circuit branch coupled to the transmitter first output and the receiver input; and
a second circuit branch coupled to the transmitter second output and the receiver input such that a reconstructed received signal and an echo compensation signal are combined and coupled to the receiver input, thereby compensating for the echo signal in a telecommunication device.

6. (Original) The apparatus according to claim 5, wherein:
the first circuit branch further comprises a first resistor and a first capacitor connected in series; and
the second circuit branch further comprises a second resistor and a second capacitor connected in series.

7. (Previously Presented) The apparatus according to claim 5, further comprising
a second receiver having an input; and
a second echo compensation circuit comprising:
a third circuit branch coupled to the transmitter second output and the second receiver input; and
a fourth circuit branch coupled to the transmitter output and the second receiver input;
wherein the line transformer is coupled to the second transmitter output and the second receiver input.

8. (Original) The apparatus according to claim 7, wherein:
the third circuit branch further comprises a third resistor and a third capacitor connected in series; and

the fourth circuit branch further comprises a fourth resistor and a fourth capacitor connected in series.

9. (Original) An apparatus for compensating for echo signal in a telecommunications device comprising:

a first differential transmitter having an output terminal coupled to a first transmitted signal node;

a second differential transmitter having an output terminal coupled to a second transmitted signal node;

a first current limiting resistor having a first terminal coupled to the first transmitted signal node and a second terminal coupled to a first line transformer node;

a second current limiting resistor having a first terminal coupled to the second transmitted signal node and a second terminal coupled to a second line transformer node;

a first sampling resistor having a first terminal coupled to the first line transformer node and a second terminal connected to a first received signal node;

a second sampling resistor having a first terminal coupled to the second line transformer node and a second terminal connected to a second received signal node;

a first compensation circuit having a first terminal coupled to the first transmitted signal node and a second terminal coupled to the first received signal node;

a second compensation circuit having a first terminal coupled to the first transmitted signal node and a second terminal coupled to the second received signal node;

a third compensation circuit having a first terminal coupled to the second transmitted signal node and a second terminal coupled to the second received signal node; and

a fourth compensation circuit having a first terminal coupled to the second transmitted signal node and a second terminal coupled to the first received signal node.

10. (Original) An apparatus for compensating for echo signal in a telecommunications device according to claim 9 wherein,

the first compensation circuit further comprises a first compensation resistor and a first compensation capacitor connected in series;

the second compensation circuit further comprises a second compensation resistor and a second compensation capacitor connected in series;

the third compensation circuit further comprises a third compensation resistor and a third compensation capacitor connected in series; and

the fourth compensation circuit further comprises a fourth compensation resistor and a fourth compensation capacitor connected in series.

11. (Original) An apparatus for compensating for echo signal in a telecommunications device according to claim 9 wherein,

the first terminal of the first sampling resistor is coupled to the first transmitted signal node; and

the first terminal of the second sampling resistor is coupled to the second transmitted signal node.

12. (Previously Presented) The method of claim 1, wherein the transmit signal and the inverted transmit signal are complimentary transmission signal outputs from a differential transmitter pair.